

## CLAIMS

What is claimed is:

- 1 1. A method for automatically generating a network replication topology for use by a  
2 directory service in replicating a directory, comprising the computer-implemented  
3 steps of:  
4 reading a plurality of router configuration files; and  
5 generating the network replication topology representing one or more sites and one or  
6 more site links based on information in the plurality of router configuration  
7 files.
- 1 2. The method of claim 1, wherein the information in the plurality of router  
2 configuration files includes router interface information and the step of generating the  
3 network topology is performed based on the router interface information.
- 1 3. The method of claim 2, wherein the step of generating the network topology  
2 comprises determining at least one site by identifying a sub-network on a Local Area  
3 Network (LAN) interface.
- 1 4. The method of claim 2, wherein the step of generating the network topology  
2 comprises determining at least one site link by identifying a Wide Area Network  
3 (WAN) interface.
- 1 5. The method of claim 1, wherein the step of generating the network topology  
2 comprises determining at least one site by identifying a router interface with a  
3 bandwidth exceeding a predefined threshold value.

- 1 6. The method of claim 1, wherein the step of generating the network topology
- 2 comprises determining at least one site link by identifying a router interface with a
- 3 bandwidth not exceeding a predefined threshold value.
- 1 7. The method of claim 1, wherein the step of generating the network topology
- 2 comprises determining at least one site link by identifying a router interface with a
- 3 packet round-trip-time exceeding a predefined threshold value.
- 1 8. The method of claim 1, further comprising a computer-implemented step of:  
2 reading preprocessing information, the preprocessing information including override  
3 information for nullifying the information associated with a same one or more  
4 sites or site links from the plurality of router configuration files, wherein the  
5 network topology is generated based additionally on the override information.
- 1 9. The method of claim 1, wherein the step of reading a plurality of router configuration  
2 files includes reading from a network management system.
- 1 10. The method of claim 1, wherein the step of reading a plurality of router configuration  
2 files includes reading from a router query result.
- 1 11. The method of claim 1, further comprising the computer-implemented steps of:  
2 storing the replication topology in a database; and  
3 copying the replication topology from the database to the directory service.
- 1 12. The method of claim 11, wherein the directory service is Active Directory and the one  
2 or more site links is an Active Directory site link.
- 1 13. The method of claim 11, wherein the directory service is Active Directory and the one  
2 or more sites is an Active Directory site.

1 14. A computer-readable medium carrying one or more sequences of instructions for  
2 automatically generating a network topology for a directory service, wherein  
3 execution of the one or more sequences of instructions by one or more processors  
4 causes the one or more processors to perform steps of:  
5 reading router interface information from a plurality of router configuration files;  
6 generating the network topology representing one or more network sites and one or  
7 more network site links based on the router interface information.

1 15. The computer-readable medium of claim 14 wherein execution of the one or more  
2 sequences of instructions by one or more processors causes the one or more  
3 processors to perform the step of generating the network topology by causing the one  
4 or more processors to perform a step of:  
5 generating at least one site reference by identifying a sub-network on a Local Area  
6 Network (LAN) interface.

1 16. The computer-readable medium of claim 14 wherein execution of the one or more  
2 sequences of instructions by one or more processors causes the one or more  
3 processors to perform the step of generating the network topology by causing the one  
4 or more processors to perform steps of:  
5 generating at least one site link reference by identifying a Wide Area Network  
6 (WAN) interface.

1 17. The computer-readable medium of claim 14 wherein execution of the one or more  
2 sequences of instructions by one or more processors causes the one or more  
3 processors to perform the steps of:  
4 storing the replication topology in a database; and  
5 copying the replication topology from the database to the directory service.

- 1 18. The computer-readable medium of claim 14, wherein the directory service is Active
- 2       Directory and the one or more site links is an Active Directory site link.
- 1 19. The computer-readable medium of claim 14, wherein the directory service is Active
- 2       Directory and the one or more sites is an Active Directory site.
- 1 20. A computer system that can automatically generate a network replication topology for
- 2       use by a directory service in replicating a directory, the system comprising:
- 3       a network interface; and
- 4       one or more processors connected to the network interface, the one or more
- 5           processors configured for
- 6           reading router interface information from a plurality of router configuration files;
- 7           generating a network topology representing one or more network sites and one or
- 8           more network site links based on the router interface information.
- 1 21. The computer system of claim 20 wherein the network topology is generated for use
- 2       with a directory service and the one or more processors are further configured for
- 3       generating the network topology by generating one or more network site references
- 4       by identifying a sub-network on a Local Area Network (LAN) interface.
- 1 22. The computer system of claim 20 wherein the network topology is generated for use
- 2       with a directory service and the one or more processors are further configured for
- 3       generating the network topology by generating one or more site link references by
- 4       identifying a Wide Area Network (WAN) interface.
- 1 23. The computer system of claim 20 wherein the network topology is generated for use
- 2       with a directory service and the one or more processors are further configured for:
- 3       storing the replication topology in a database; and

4                   copying the replication topology from the database to the directory service.

1   24. An apparatus that can automatically generate a network topology for use in  
2                   replicating a directory associated with a directory service, the apparatus comprising:  
3                   means for reading a plurality of router configuration files; and  
4                   means for generating the network topology representing one or more sites and one or  
5                   more site links based on information in the plurality of router configuration  
6                   files.

1   25. The apparatus of claim 24, further comprising:  
2                   means for determining at least one site by identifying a sub-network on a Local Area  
3                   Network (LAN) interface.

1   26. The apparatus of claim 24, further comprising:  
2                   means for determining at least one site link by identifying a Wide Area Network  
3                   (WAN) interface.

1   27. The apparatus of claim 24, further comprising:  
2                   means for storing the replication topology in a database; and  
3                   means for copying the replication topology from the database to the directory service.

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